Applicant : Gilbert Wolrich et al.   Attorney Docket: 10559-133001 / P7872
Serial No. : 09/476,303
Filed   : December 30, 1999
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Remarks

Below, the applicant's comments are preceded by related remarks of the examiner set forth in small bold type.

7.   The title of the invention is not commensurate with the claimed invention, that is, the title is not descriptive of the claimed invention. A new title is required that is clearly indicative of the invention to which the claims are directed.

The applicant respectfully disagrees. The title "Port Blocking Technique for Maintaining Receive Packet Ordering for a Multiple Ethernet Port Switch" is commensurate with the claimed invention. If the Examiner continues to regard the title as being non-descriptive, the applicant would request that the Examiner suggest a title that is descriptive of the claimed invention.

9.   Both copies of the submitted IDS documents reference the current application (09/476,303), and mislabel another application, namely, 10/449,079. Both these entries are stricken from the list of considered references.

The applicant inadvertently made a typo in the IDS previously submitted. The applicant has filed a supplemental IDS concurrently with this Reply to disclose the reference with the correct application number.

10.   It should be noted that the Applicant has submitted an exorbitant amount of prior art which on initial consideration appears to not all have relevancy or pertinence to the instant invention as claimed. Applicant is requested in response to this office action to point out which of these numerous prior art are pertinent or relevant to the patentability of the invention as claimed in this instant application. It should also be noted that it would be advantageous to Applicant to provide a concise explanation of why each of the prior art is being submitted and how it is understood to be relevant. "Concise explanations are helpful to the Office, particularly where documents are lengthy and complex and applicant is aware of a section that is highly relevant to patentability or where a large number of documents are submitted and applicant is aware that one or more are highly relevant to patentability. " (See MPEP §609 under subheading "A. CONTENT").

The applicant notes that these references were cited by examiners in other cases filed by the assignee of the present application.

11. Applicant is also requested to respond to this action with any particular knowledge of which co-pending or issued patent applications share similar claimed subject matter to the present application, so any further issues relating to double patenting may be easily ascertained.

16. Given the breadth of the currently presented claims, Applicant is requested to identify other co-assigned patents and patent applications which may give rise to further double patenting rejections.

The applicant is not aware of additional co-pending application or issued patents that share claimed subject matter similar to the present application.

13. Claims 1-18, and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-27 of U. S. Patent Number 6,661,794, and claims 1-16 of U.S. Patent Number 6,625,654.

14. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current breadth and content of the current claims were disclosed in each of these prior patent documents. The provision of scheduling thread(s), the selection of thread(s) available to service" the port(s), the subsequent assignment of the port to a suitable thread, and the subsequent reuse of the port and process threads to continue information processing was directly claimed in both these applications. Any difference between selective patented claims in both these documents and the currently presented claims are minimal, and constitute an obvious variation of the patented method(s), since no additional structural or functional difference is evident.

15. Claims 1-1 8, and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 24-36 of copending Application Number 10/726,757, claims 1-25 of copending Application Number 10/684,078, claims 1-1 2 of copending Application Number 10/643,438, claims 1-28 of copending Application Number 10/6 15,280, and claims 1-25 of copending Application Number 09/475,6 14. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the same reasons detailed above. The differences between selective claims of these cited application and the present application claims are minimal, and do not constitute patentable differences due to the absence of, or obvious nature of any isolated potential differences. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The applicant respectfully disagrees. The claims in the present application are patentably distinct from the claims in patents 6,661,794 and 6,625,654, and applications 10/726,757, 10/684,078, 10/643,438, 10/615,280, and 09/475,614. For example, claim 1 of the present application, which recites "awaiting notification by the processing thread that processing of the

first segment of data has been completed prior to unblocking the port," is not an obvious

variation of any of the claims in the patents and applications mentioned above.

> **19.   All the presented claims recite "determining that one of the plurality of ports needs service". The metes and bounds of this portion of the claim cannot be easily ascertained. Given the breadth of the plain meaning of the term "port" (e. g., connection hole, logical handle for data flow, etc. ", and no readily available qualified meaning for the term "service", the claim in indefinite. Without qualification of what these terms describe, clarity of the claimed invention is absent. This limitation will be treated broadly, and is understood to recite nothing more than a determination that there is incoming data on a particular data flow (physical/logical connection) which is to be processed in one fashion of another. Indeed, this assumed functionality is still missing from the claims, even after Examiner noted this deficiency in prior action(s).**

The applicant has amended claims 1 and 13.

> **20.   In short, the claims remain overly broad. The breadth and shifting of the claimed invention is resulting in interpretation which hinders prosecution. Applicant is advised to (1) refer back to prior discussions between Examiner and Applicant, on the record, for ways to clarify the claimed invention, and (2) fill in the current "skeleton" of a claim with sufficient details serving to fully describe and qualify the invention as enabled in the specification. Applicant is charged with "particularly pointing out and distinctly claiming " the invention.**

Applicant has reviewed papers related to past discussions between the Examiner and

Applicant. Applicant notes that the amended claims do particularly point out and distinctly

claim the invention. Applicant contends that the examiner's requirement that the claims need to

have: "sufficient details to fully describe and qualify the invention as enabled in the

specification" is merely an attempt by the examiner to narrow the scope of Applicant's claims,

without the benefit of any relevant prior art requiring such a narrowing of scope. It is the

function of the claims to set forth the novel and non-obvious subject matter of Applicant's

invention. Accordingly, if the Examiner continues to make such a requirement, the applicant

would request that the Examiner furnish a basis for the requirement.

> **22.   Claims 1-18, and 20 are rejected under 35 U. S. C. $102(b) as being anticipated by Yasrebi (U. S. Patent Number 5,463,625), hereinafter referred to as Yasrebi '625, or alternatively, under 35 USC §102(e) as being anticipated by Yasrebi (U. S. Patent Number 6,141,689), hereinafter referred to as Yasrebi '689.**

23.   It is noted that Yasrebi '625 fully incorporates by reference Yasrebi '689, and vice-versa. See Yasrebi '625, Column 9, Lines 63-67, and Yasrebi '689, Column 3, Lines 18-29. This combination of references will be treated as a single, combined document.

24.   Yasrebi disclosed methodology mapping physical and/or logical ports with particular processes and/or threads. See Yasrebi '625, inter alia, Column 8, Lines 5-12, and Yasrebi '689, Figure 2. The control threads as disclosed, inter alia, in Yasrebi '625, Yasrebi '625 in Column 8, Lines 20 through Column 9, Line 54, schedule processing of incoming data from the ports.

25.   These claims were fully disclosed by the teachings of Yasrebi as follows:

(claim 1, 13)

1. scheduling processing of data received at a plurality of ports, performed by a plurality of processing threads, was taught by Yasrebi '625 in Column 8, Line 30, and Yasrebi '689, inter alia, in Column 12, Lines 26-30.

2. determining that one of the plurality of ports needs service, was taught by Yasrebi '689, inter alia, in Column 11, Lines 13-16. If the port was not "idle" and/or the port was currently active in a communication, data was determined to be forthcoming, and thus, "required service".

3. selecting one of the plurality of processing threads that is available to service the port, was taught by Yasrebi '689 in Column 7, Lines 5 1-58, and Column 10, Lines 45-5 1,

4. assigning the port to the processing thread, was taught by Yasrebi '625 in Column 8, Lines 20 through Column 9, Line 54, and Yasrebi '689, inter alia, in Column 9, Lines 5-10, or Column 11, Lines 1-9.

5. awaiting notification by the processing thread that processing of data received at the assigned port has been completed prior to unblocking the port and re-assigning the port to one of the plurality of processes, was taught by Yasrebi '689 in Column 10, Lines 24-30. Every port communication was timed between PortOpen and PortClose function calls (i.e., active), and each port was assigned in response to call/RPC initiation. Thus, a "session", call, or RPC termination or "sharing" (port sharing, as disclosed by Yasrebi '689 was optional functionality in Column 11, Lines 26-36) was required prior to reassignment of the port to a thread or process. Without multiplexing (more optional functionality), only one thread may use any particular port. See Yasrebi '689, inter alia, Column 10, Lines 45-63, and Column 12, Lines 3 1-37.

Yasrebi '625 and '689 do not disclose or suggest "scheduling processing of data received at a plurality of ports, the processing performed by a plurality of processing threads that execute in parallel," the scheduling including "determining that a first segment of data is available from

one of the plurality of ports, [and] selecting one of the plurality of processing threads that is available to process the first segment of data," as recited in amended claim 1.

Rather, Yasrebi '625 and '689 disclose a distributed system having multiple threads that issue remote procedure calls (RPCs). When an RPC is issued, one of a plurality of ports is located from a pool of ports and bound to the RPC. See Yasrebi '625, col. 6, lines 47-49 and col. 7, line 60 to col. 8, line 12, and Yasrebi '689, col. 8, lines 54-65, and col. 11, lines 52-64. If the Examiner takes the position that the "threads" that issue RPCs (or the RPCs themselves) in Yasrebi correspond to the "processing threads" of claim 1, then Yasrebi '625 and '689 do not disclose or suggest "scheduling processing of data received at a plurality of ports," the scheduling including "selecting one of the plurality of processing threads that is available to process the first segment of data." In the distributed system of Yasrebi '625 and '689, when data is received at a port, the port is already bound to an RPC and linked to a thread, so there is no "selection" of one of a plurality of processing threads (or "selection" of one of a plurality of RPCs) to process the data. In Yasrebi '625 and '689, what is scheduled is the processing of remote procedure calls (see Yasrebi '625, col. 11, lines 62-63 and col. 12, lines 8-9), not the processing of data received at a plurality of ports by processing threads executing in parallel.

Claim 13 is patentable for at least the same reasons as claim 1. The dependent claims are patentable for at least the same reasons as the claims on which they depend.

27.　　 Claims 1-18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Heimsoth et al. (U.S. Patent Number 5,764,915), hereinafter referred to as Heimsoth.

28.　　 Heimsoth disclosed a system and method for effecting end node communications in a networking environment using arbitrary protocol stack assembly. See, inter alia, Column 2, Lines 41-60. Heimsoth fully disclosed the tuning of server performance using execution thread management. See, inter alia, Column 15, Lines 2-9. The (pre)presence of server threads processing logical port traffic was disclosed. See, inter alia, Column 21, Lines 11-14, and Column 23, Lines 8-30. Lastly, the scheduling of thread execution was disclosed, inter alia, in Column 21, Lines 33-44, and Columns 22-30.

29.　　 Heimsoth disclosed the invention as broadly claimed as follows:

　　　　 (claim 1, 13)

    1. scheduling processing of data received at a plurality of ports,
performed by a plurality of processing threads, was taught by Heimsoth, inter
alia, in Column 21, Lines 45-65.

    2. determining that one of the plurality of ports needs service, was
taught by Heimsoth, inter alia, in Column 23, Lines 3-5.

    3. selecting one of the plurality of processing threads that is available to
service the port, was taught by Heimsoth, inter alia, in Column 23, Lines 5-7.

    4. assigning the port to the processing thread, was taught by Heimsoth,
inter alia, in Column 23, Lines 5-7.

    5. awaiting notification by the processing thread that processing of data
received at the assigned port has been completed prior to unblocking the port
and re-assigning the port to one of the plurality of processes, was taught by
Heimsoth, inter alia, in Column 24, Lines 31-34.

Heimsoth does not disclose or suggest "scheduling processing of data" that includes
"determining that a second segment of data is available from the assigned port, and awaiting
notification by the processing thread that processing of the first segment of data has been
completed prior to unblocking the port and re-assigning the port to one of the plurality of
processing threads," as recited in amended claim 1.

Rather, Heimsoth discloses using server threads to process network requests issued by
clients through assigned ports, in which multiple threads can be processing multiple concurrent
requests from a single port. Heimsoth discloses that, "[e]ach client is assigned an unique
communication end point called client_port after a communiction session with the server has
been established," (col. 21, lines 60-62) "[u]sing its assigned client_port, the client can now issue
a network request to the server," (col. 22, lines 14-15) "[e]ach of the client machines 500 may
have a plurality of client application objects 507 resident each capable of making client
requests," (col. 22, lines 27-29) and "a server thread is assigned to a client request for a duration
of time required for processing the client request" (col. 24, lines 40-42). In Heimsoth, a variable
MaxReq defines "the maximum number of concurrent request that the given client is allowed,"
and a variable Clientthreads defines, for each client, "the number of active requests being
serviced by the server" (col. 23, lines 20-21 and 29-30). Thus, in Heimsoth, there can be
multiple threads processing mutilple concurrent requests issued by a client through an assigned

port. Heimsoth does not disclose or suggest "determining that a second segment of data is available from the assigned port, awaiting notification by the processing thread that processing of the first segment of data has been completed prior to unblocking the port and re-assigning the port to one of the plurality of processing threads," as recited in claim 1

Claim 13 is patentable for at least the same reasons as claim 1. The dependent claims are patentable for at least the same reasons as the claims on which they depend.

> 32.   Applicant asserts the prior art did not expressly provide the selection of
> a processing thread available to service a port. This line of reasoning is unclear,
> since Applicant follows with explanation of Yasrebi (previously applied art),
> "initiating a remote procedure call (RPC)", and detailing that "an idle port is
> bound to the RPC to allow the RPC to receive input from the port ..." First,
> this clearly provided the selection of a RPC to communicate with an arbitrary
> "port". If the RPC is using the port to receive (or output) data, the "port" is not
> idle at the time of binding, but this does not mean the port is idle.

As discussed above, in Yasrebi, when an RPC is issued, one of a plurality of ports is located from a pool of ports and bound to the RPC. In Yasrebi, the "selecting" is performed to select one of a plurality of ports, not to select one of a plurality of processes for processing data received at the port, as required by claim 1.

> 33.   Applicant's arguments fail to comply with 37 CFR 1.111(b) because
> they amount to a general allegation that the claims define a patentable invention
> without specifically pointing out how the language of the claims patentably
> distinguishes them from the references.
>
> 34. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do
> not clearly point out the patentable novelty which he or she thinks the claims
> present in view of the state of the art disclosed by the references cited or the
> objections made. Further, they do not show how the amendments avoid such
> references or objections.

In the remarks above, the applicant has specifically pointed out how the language of the claims is patentably distinct from the references.

In addition, the claims are neither described nor suggested by any alleged combination of Yasrebi and Heimsoth since the references would not suggest the combination of "selecting one of the plurality of processing threads that is available to process the first segment of data," and

"awaiting notification by the processing thread that processing of the first segment of data has been completed prior to unblocking the port and re-assigning the port to one of the plurality of processing threads." The combination of Yasrebi and Heimsoth would not suggest "scheduling processing of data received at a plurality of ports," in which the scheduling includes both "selecting one of the plurality of processing threads that is available to process the first segment of data" and "awaiting notification by the processing thread that processing of the first segment of data has been completed prior to unblocking the port and re-assigning the port to one of the plurality of processing threads," as recited for instance in claim 1.

Claim 19 has been cancelled without prejudice. The applicant reserves the right to pursue claim 19 in a divisional application.

Newly added claims 21-28 are also allowable over the references for analogous reasons as discussed above.

Enclosed is a check of $1020 for the Petition for Extension of Time fee and a check of $250 for the excess claims fee. Please apply any other charges or credits to deposit account 06-1050, referencing attorney docket 10559-133001.

Respectfully submitted,

Date: 12/30/2004

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*See attached document certifying that Rex Huang has limited recognition to practice before the U.S. Patent and Trademark Office under 37 CFR § 10.9(b).

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